

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS

1. (currently amended) A chemical concentration measuring system used in a biocontamination deactivation apparatus having a vaporizer that receives a feed stream comprised of a fluid having hydrogen peroxide and at least one chemical component, wherein the chemical concentration measuring system determines the concentration of the hydrogen peroxide in the fluid, the system for determining a concentration of hydrogen peroxide in a fluid comprised of at least one chemical component, comprising:

sensing means responsive to changes in the concentration of the hydrogen peroxide in the fluid, the sensing means including a capacitive voltage divider circuit including:

(a) a first capacitor having first and second conductors exposed to the fluid, said fluid comprising a dielectric therebetween, and

(b) a second capacitor;

an alternating current (AC) voltage generator for applying an AC voltage to the capacitive voltage divider circuit; ~~and~~

a memory for storing a table of data including capacitance values and corresponding concentration values indicative of the relative concentration of hydrogen peroxide in the fluid;
and

processing means for measuring a voltage across the second capacitor to determine a ~~first~~ capacitance value associated with ~~[[of]]~~ the first capacitor, and determining the concentration of the hydrogen peroxide in the fluid using the determined capacitance value and the table of data stored in the memory ~~in accordance with the first capacitance.~~

2. (original) A chemical concentration measuring system according to claim 1, wherein said first capacitor is selected from the group consisting of: a parallel plate capacitor, a cylindrical capacitor, and a spherical capacitor.

3. (original) A chemical concentration measuring system according to claim 2, wherein said first capacitor is a parallel plate capacitor, said first and second conductors being metal net plates.

Claim 4 (canceled).

5. (currently amended) A chemical concentration measuring system according to ~~claim 4~~claim 1, wherein said processing means obtains a relative concentration of the hydrogen peroxide using~~[[from]] said table of data in accordance with said first capacitance.~~

6. (currently amended) A chemical concentration measuring system according to ~~claim 4~~claim 1, wherein said processing means interpolates or extrapolates a relative concentration of the hydrogen peroxide~~corresponding to the first capacitance~~ using said table of data.

7. (currently amended) A chemical concentration measuring system according to ~~claim 4~~claim 5, wherein said processing means normalizes said relative concentration of the hydrogen peroxide to provide an absolute concentration of the hydrogen peroxide in the fluid.

Claim 8 (canceled).

9. (currently amended) A chemical concentration measuring system according to ~~claim 8~~claim 1, wherein said ~~liquid solution includes at least one of: liquid hydrogen peroxide and~~ at least one chemical component is liquid water.

Claims 10-11 (canceled).

12. (currently amended) A chemical concentration measuring system used in a biocontamination deactivation apparatus having a vaporizer that receives a feed stream comprised of a fluid having hydrogen peroxide and at least one chemical component, wherein the

chemical concentration measuring system determines the concentration of the hydrogen peroxide in the fluid, the system for determining a concentration of hydrogen peroxide in a fluid comprised of at least one chemical component, comprising:

sensing means responsive to changes in the concentration of the hydrogen peroxide in the fluid, the sensing means including a resistive voltage divider circuit including:

(a) a first resistor including first and second conductors exposed to the fluid, said fluid comprising a resistive element of the first resistor, and

(b) a second resistor;

a memory for storing a table of data including resistance values and corresponding concentration values indicative of the relative concentration of hydrogen peroxide in the fluid;

an alternating current (AC) voltage generator for applying an AC voltage to the resistive voltage divider circuit; and

processing means for measuring a voltage across the second resistor to determine a ~~first~~ resistance value associated with ~~[[of]]~~ the first resistor, and determining the concentration of the hydrogen peroxide in the fluid using the determined resistance value and the table of data stored in the memory ~~in accordance with the first resistor.~~

Claim 13 (canceled).

14. (currently amended) A chemical concentration measuring system according to ~~claim 13~~ claim 12, wherein said processing means obtains a relative concentration of the hydrogen peroxide using ~~[[from]]~~ said table of data ~~in accordance with said first resistance.~~

15. (currently amended) A chemical concentration measuring system according to ~~claim 13~~ claim 12, wherein said processing means interpolates or extrapolates a relative concentration of the hydrogen peroxide corresponding to the first resistance ~~using said table of data.~~

16. (currently amended) A chemical concentration measuring system according to ~~claim 13~~claim 14, wherein said processing means normalizes said relative concentration of the hydrogen peroxide to provide an absolute concentration of the hydrogen peroxide in the fluid.

Claim 17 (canceled).

18. (currently amended) A chemical concentration measuring system according to ~~claim 17~~claim 12, wherein said ~~liquid solution includes at least one of: liquid hydrogen peroxide and~~at least one chemical component is liquid water.

Claims 19-20 (canceled).

21. (currently amended) A method for determining a concentration of hydrogen peroxide in a feed stream received by a vaporizer for a biocontamination deactivation apparatus, wherein the feed stream is comprised of a fluid having hydrogen peroxide and at least one chemical component~~fluid having at least one chemical component~~, the method comprising:

exposing a capacitor, of a capacitive voltage divider circuit, having first and second conductors to the fluid, wherein said fluid ~~comprising~~comprises a dielectric between first and second conductors of the capacitor, said capacitor having an associated voltage that varies according to the concentration of the hydrogen peroxide in the fluid~~therebetween; and~~

pre-storing data in a memory, including capacitance values associated with the capacitor and corresponding concentration values that are indicative of the concentration of the hydrogen peroxide in the fluid;

~~determining a change in an electrical property of the capacitor associated with the capacitor, said change in the electrical property varying according to the concentration of the hydrogen peroxide in the fluid.~~

measuring the associated voltage;

determining a capacitance value associated with the capacitor using the measured associated voltage; and

accessing said pre-stored data using the capacitance value to determine the relative concentration of the hydrogen peroxide in the fluid.

Claim 22 (canceled).

23. (currently amended) A method according to claim 21, wherein said method further comprises~~step of determining a change in an electrical property of the capacitor includes:~~

interpolating or extrapolating from the table of data a relative concentration of the hydrogen peroxide in the fluid, corresponding to the ~~change in the electrical property of~~capacitance value associated with the capacitor.

24. (currently amended) A method according to claim 21, wherein said method further comprises~~processing means~~

~~normalizes~~normalizing said relative concentration to provide an absolute concentration of the hydrogen peroxide in the fluid.

Claim 25 (canceled).

26. (currently amended) A method according to ~~claim 25~~claim 21, wherein said ~~liquid solution includes at least one of: liquid hydrogen peroxide and~~at least one chemical component is liquid water.

Claims 27-28 (canceled).

29. (currently amended) A method for determining a concentration of hydrogen peroxide in a feed stream received by a vaporizer for a biocontamination deactivation apparatus, wherein the feed stream is comprised of a fluid having hydrogen peroxide and at least one chemical component~~fluid having at least one chemical component,~~ the method comprising:

exposing a resistor, of a resistive voltage divider ~~having first and second terminal to~~circuit, to the fluid, wherein said fluid comprising~~comprises~~ a resistive element of the resistor

between first and second conductors of the resistor, said resistor having an associated voltage that varies according to the concentration of the hydrogen peroxide in the fluid;-and

pre-storing data in a memory, including resistance values associated with the resistor and corresponding concentration values that are indicative of the concentration of the hydrogen peroxide in the fluid;

measuring the associated voltage;

~~determining a change in an electrical property of the resistor, said change in the electrical property varying according to the concentration of the hydrogen peroxide in the fluid.~~

determining a resistance value associated with the resistor using the measured associated voltage; and

accessing said pre-stored data using the resistance value to determine the relative concentration of the hydrogen peroxide in the fluid.

Claim 30 (canceled).

31. (currently amended) A method according to claim 29, wherein said method further comprises~~step of determining the capacitance includes:~~

interpolating or extrapolating from the table of data a relative concentration of the hydrogen peroxide in the fluid, corresponding to the ~~change in the electrical property of~~resistance value associated with the resistor.

32. (currently amended) A method according to claim 29, wherein said method further comprises~~processing means~~

~~normalizes~~normalizing said relative concentration to provide an absolute concentration of the hydrogen peroxide in the fluid.

Claim 33 (canceled).

34. (currently amended) A method according to ~~claim 33~~claim 29, wherein said ~~liquid solution includes at least one of: liquid hydrogen peroxide and~~at least one chemical component is liquid water.

Claims 35-36 (canceled).